

ABSTRACT

A liquid electrolyte battery is disclosed having autonomous watering and electrolyte mixing systems. Watering is effected through a fluid conduit and a valve system mounted on the battery providing fluid communication and flow control between a fluid source and the battery cells. Mixing of the electrolyte is effected by pumping air into the battery cells to prevent acid stratification during charging using an air conduit and air pump mounted on the battery. The fluid conduit provides fluid communication between the air pump and the cells. A controller mounted on the battery receives input signals from various sensors indicative of electrolyte level and charging status and controls the valve system and the air pump to effect watering and electrolyte mixing. A protective cover is mounted on the battery to restrict access to the controller and the air pump.